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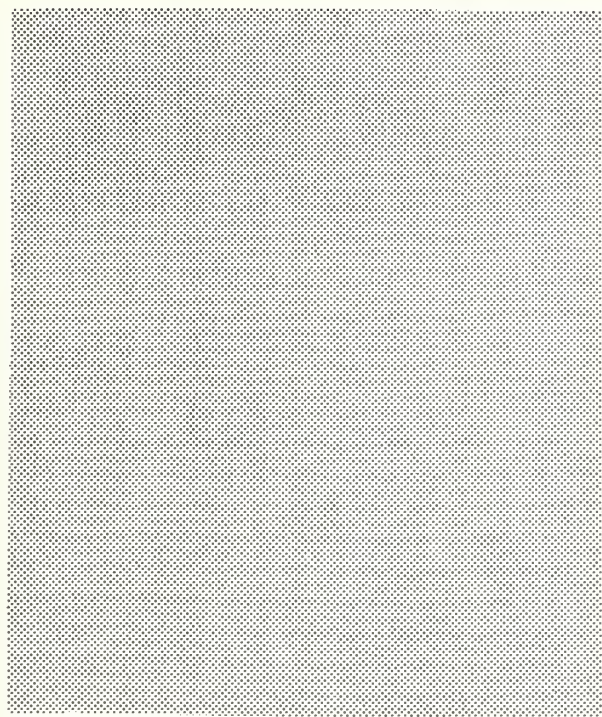
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# THE IMPACT OF THE FLORIDA FREEZE ON PRICES OF ORANGE PRODUCTS



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U.S. DEPARTMENT OF AGRICULTURE



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# THE IMPACT OF THE FLORIDA FREEZE ON PRICES OF ORANGE PRODUCTS 1/

In contrast to the increase in supplies for beef, the citrus industry was confronted last December by a sudden and unexpected decrease in available supplies. For 8 hours during the night of December 12 and the morning of December 13, 1962, freezing temperatures hit most of Florida's citrus producing areas, damaging trees, and inflicting heavy damage on the 1962-63 crop. 2/ The freeze reduced the potential production of frozen orange juice concentrate from an estimated 50 to 80 percent. 3/

This article traces price changes at the grower, processor, and retailer levels following the decrease in prospective supply. Retail prices in an east coast metropolitan area were analyzed by type of market organization: Affiliated and unaffiliated independent stores and multi-establishments. Prices of advertised and unadvertised brands of frozen concentrate were examined at processor and retail levels. Single strength orange juice prices were also considered because of the close relationship to concentrates.

## The Supply Situation

Before the freeze, the industry faced a chronic surplus condition. The carry-over inventory for the 1962-63 season, beginning December 1, was 33.7 million gallons -- approximately 45 percent of the average yearly consumption of the previous 5 years and twice the previous year's carry-over. Further, the Crop Reporting Board on December 10, estimated a record large orange crop of 150.0 million boxes for 1962-63. Had this estimate materialized, it would have re-

sulted in a 12 million-box increase over the 1962 record crop.

The bumper crop in 1962 and the expected bumper crop for 1963 were a culmination of two factors: First, by 1962, orange groves were beginning to achieve full recovery from the last major freeze, which occurred in December 1957; and secondly, production was beginning to reflect increased grove plantings of recent years. The new groves were a response to the relatively good returns received by citrus producers in recent years, which in turn were due primarily to earlier shifts in consumer demand in favor of frozen citrus concentrate. To keep up with the growing citrus supplies, the industry had undertaken a major promotional effort in 1961 and 1962. However, these efforts failed to stimulate additional demand commensurate with production increases.

The freeze drastically changed this situation. The citrus industry was hit by the most damaging freeze in history, and it was evident that even with the record carry-over, prices would rise.

## Grower Prices

Prices received by Florida growers jumped immediately for oranges surviving the freeze in a condition good enough to be sold as fresh fruit. Prices, which had averaged \$1.80 a box at mid-November 1962, increased to \$5.24 in January. They continued to rise until they reached \$5.78 in April.

The prices paid to growers for fruit destined for processing lagged behind

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1/ Prepared by Jerald A. Gunnelson, agricultural economist, Marketing Economics Division, ERS.

2/ Florida produces 95 percent of total frozen orange juice concentrate.

3/ This percentage reduction was calculated in terms of forecast number of boxes times pounds of solids per box. Since the freeze reduced the actual yield of solids per box by approximately a third, the supply available to processors was reduced considerably more than the Crop Reporting Board's estimate of a 35 percent reduction in number of boxes.



prices for the fresh market due to the tremendous quantities dumped on the market from emergency salvage operations. But by 2 weeks after the freeze, prices of oranges for processing began to increase. Prices rose to \$1.20 a box by the end of December from about \$1.00 a box before the freeze. They continued to rise during January and February, reaching an average level of \$4.46 during April.

### Processor Prices

Processors increased prices immediately in anticipation of drastically reduced supplies for the coming year. The market, which had been relatively inactive even at the low price of \$1.25 for a dozen 6-ounce cans of concentrate (unadvertised brands), increased immediately after the freeze to \$2.00 (table 7). On December 26, the price increased still further to \$2.30 (21 cents above the advertised brand price), but slid to \$2.05 a few days later. The \$2.30 level was reinstated on February 25, and on March 25 climbed to the near record high of \$2.55.

Processor prices of two leading advertised brands distributed in the community where retail prices were surveyed showed similar upward movements. Immediately after the freeze in December, they increased to \$2.09; they were \$1.72 prior to the freeze. These prices held until January 14, when they rose to \$2.49. Following these initial increases, three additional boosts were made: On February 25, prices went to \$2.59; 1 month later they increased to \$2.74; and on April 15, they rose to \$2.94. At the same time, some processors also initiated a rationing policy. Rationing of some brands has become more intense in recent months, according to trade sources.

### Retail Prices

The reactions at the retail level, although generally following changes in processor prices, (f.o.b. Florida) varied significantly by type of retail organization (fig. 4). Retail price data collected weekly from 24 stores in an east coast metropolitan area showed that stores of multi-establishment firms responded most rapidly to processor price changes. Price changes of these stores appear to follow the processor price almost perfectly except for a lag of about 1 week. <sup>4/</sup> Multi-establishment prices, for example, were the only prices to follow the processor price of unadvertised brands after the January 14 decrease from \$2.30 to \$2.05. <sup>5/</sup> When the processor price returned to \$2.30 on February 25, multi-establishments responded by increasing their prices 1 week later.

The affiliated and unaffiliated independents responded much less rapidly to processor price changes. Affiliates, responding to the initial processor price change, increased prices gradually until the early part of February. A few weeks later they showed a slight price decrease, but this was 2 months after the processor prices declined. Unaffiliated prices exhibited similar responses to the initial processor price increase, but followed the processor price more closely thereafter.

Individual establishments of both categories of independents followed diverse response patterns (table 8). Establishment No. 12 responded immediately to the initial increase and also to the following price reduction and later price increase. In contrast establishment No. 21 kept its price unchanged until January 25. Three other independent establishments did not change their prices until the first half of January.

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<sup>4/</sup> This lag can be explained in part by transportation time from Florida and administrative lags in the retail organization.

<sup>5/</sup> In trade terminology "advertised" includes all premium brands. "Unadvertised" includes all nonpremium brands. In averaging multi-establishment prices, retailer brands were included in the unadvertised group.

Table 7.--Frozen Orange Juice Concentrate: Price for 12 6-ounce cans, f.o.b. Florida, 1962-63

Date of price change:	Unadvertised brands	Advertised brands <sup>1/</sup>
	Dollars	Dollars
Dec. 13	1.25	1.72
Dec. 14	2.00	2.09
Dec. 26	2.30	<u>2/</u>
Jan. 14	2.05	2.49
Feb. 18	<u>2/</u>	2.59
Feb. 25	2.30	<u>2/</u>
Mar. 18	<u>2/</u>	2.74
Mar. 25	2.55	<u>2/</u>
Apr. 15	<u>2/</u>	2.94

<sup>1/</sup> Prices of 2 leading advertised brands distributed in community where retail prices were collected.

<sup>2/</sup> No change.

In general, retail margins have not increased appreciably from the pre-freeze period to the present. <sup>6/</sup> Unaffiliated independent stores had substantially higher margins before the freeze and during the last 2 months than other stores. But due to their slower response to the initial large processor price increase, their margins during the intermediate months were quite comparable to the multi-establishment and affiliated margins.

#### Advertised vs. Unadvertised Brands

Stores were out of stock more frequently of the advertised brands than for

the unadvertised brands. <sup>7/</sup> The two leading advertised brands showed extensive "out-of-stocks" after February 15, probably reflecting the rationing policies reported in effect for these brands. All retailers experienced about the same change in the number of out-of-stocks. Available evidence suggested that retailers did not take advantage of the rationing to increase margins on these brands. Out-of-stocks for unadvertised brands have shown a very small increase.

#### Competitive Products

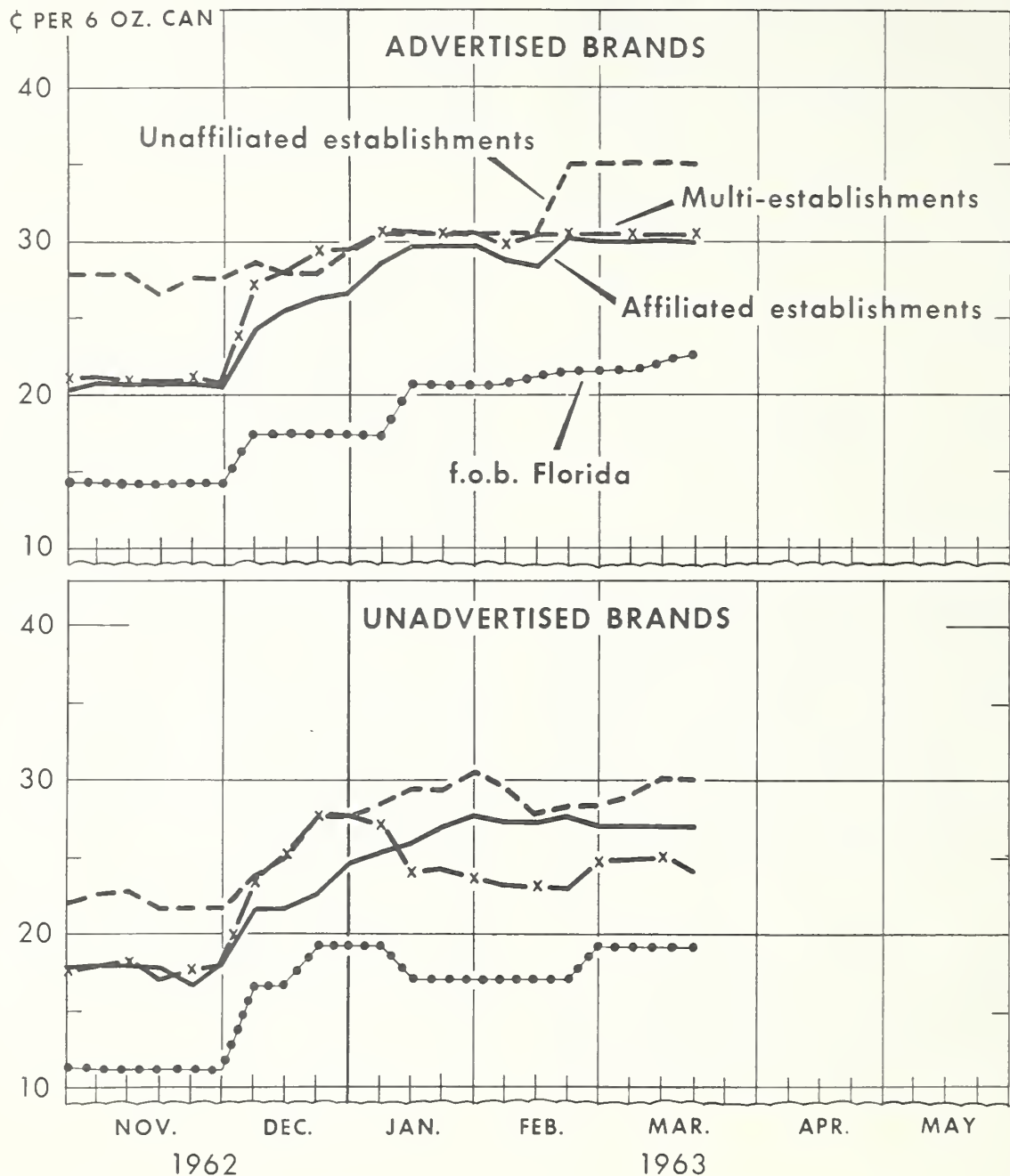
The prices of single strength orange juice increased in all establishments during the study period (November 2 -- March 29) but the increase was not as great as for orange concentrate. Whereas average orange concentrate prices increased from 42 percent to 44 percent depending on whether they were advertised or unadvertised brands; the price of single strength juice increased about 30 percent. During the initial reaction period from the freeze to mid-January the difference was much greater. Orange concentrate showed an average price increase of 38 percent; single strength prices increased only 8 percent. The difference in the percentage increase may be due to a slightly better supply situation for single strength juice, since much of the salvaged fruit had to be processed into this product.

The prices of tomato juice, a product not as closely substitutable as single strength orange juice, remained stable during the entire period in all establishments.

<sup>6/</sup> The margin is the difference between the retail and processor price.

<sup>7/</sup> An "out-of-stock" is defined as a normally carried brand that is not available in a store's freezer on the observation day.

# RETAIL AND PROCESSOR PRICES OF FROZEN ORANGE JUICE CONCENTRATE



FRIDAY PRICES, NOV. 2, 1962-MAR. 22, 1963; RETAIL PRICES LAGGED 1 WEEK.  
RETAIL STORES IN EAST COAST METROPOLITAN AREA.

Figure 4





